

CLAIMS

1. A method of detecting an incident on a portion of route (1) situated in a scene (2) when said portion of route is suitable for having objects traveling therealong, and when the method makes use of a video camera (3) having a target (4) constituting an optoelectronic converter of a real optical image of the scene, said target being controlled by a programmable processor member (6), the process for detecting incidents being suitable for being performed by activating said programmable processor member only while the real image (5) of the scene focused on the target (4) is stationary, the method being characterized in that it consists:
 - in detecting the beginning of movement of the real image of the scene relative to the target;
 - in deactivating the programmable processor member as soon as the real image of the scene begins to move relative to the target;
 - in detecting the end of movement of the real image of the scene relative to the target; and
 - in reactivating the programmable processor member at the end of the movement of the real image of the scene relative to the target in order to implement the process for detecting an incident.
2. A method according to claim 1, characterized in that the beginning and the end of movement of the real image of the scene relative to the target are detected:
 - by determining at least one first image point of said real image of the scene corresponding to a fixed point of said scene;
 - by generating a first command signal when said first image point is subjected to a change of position on said target; and
 - in controlling said programmable processor member as a function of said first command signal.
3. A method according to claim 1, characterized in that the beginning and the end of movement of the real image of the scene relative to the target are detected:
 - by determining at least second and third image points of said real image of the scene corresponding respectively to two stationary points of said scene;

- by generating a second command signal when the distance between said second and third image points changes; and
- by controlling said programmable processor member as a function of the second command signal.

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4. A method according to claim 1, characterized in that the beginning and the end of movement of the real image of the scene relative to the target are detected:

- by determining at least fourth and fifth image points of said real image of the scene which correspond respectively to two stationary points of said scene;
- by generating a third command signal when the distance between the fourth and fifth image points varies and when at least one of the fourth and fifth image points is subject to a change of position on said target; and
- by controlling said programmable processor member as a function of the third command signal.

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5. A method according to any preceding claim, characterized by the fact that it consists in subdividing said target into a plurality of photosensitive points, said photosensitive points being suitable for delivering signals as a function of the quantity of radiation received by their photosensitive surfaces.

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6. A method according to claim 5, characterized by the fact that the process for detecting an incident on said portion of route when it is suitable for having objects traveling thereon along an axis and following a path that is substantially imposed, consists:

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- in selecting a group of photosensitive points in said plurality of photosensitive points of the target, the selected group of points corresponding to points of said portion of route located on a plurality of main geometrical construction lines, said main construction lines being situated in the plane of said portion of route and all being substantially parallel to the axis of said trajectory; and
- in analyzing the set of signals delivered by the photosensitive points of said selected group.

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7. A method according to claim 6, characterized by the fact that the detection process further consists:

- in subdividing said selected group of photosensitive points into a plurality of subgroups of photosensitive points corresponding to points on the portion of route situated at the intersections between said main construction lines and respective secondary geometrical construction lines that are substantially perpendicular to the main construction line; and
 - in associating each photosensitive point of a subgroup with a weighting coefficient for multiplying the value of the signal emitted by said point, the weighting coefficient being a function of the preferential probability of objects passing over the point of the portion of route whose image is the photosensitive point associated with said weighting coefficient.
8. A method according to claim 7, characterized by the fact that the photosensitive receive areas of said photosensitive points are of substantially the same dimensions.
9. A method according to claim 8, characterized by the fact that said analysis:
- in averaging the values of the signals delivered by the points of each subgroup at given instants;
 - in comparing the averages as obtained in this way for each subgroup;
- and
- in deducing from said comparison the presence, if any, of an incident on said portion of route.
10. A method according to any one of claims 1 to 8, characterized by the fact that the beginning and the end of movement of the real image of the scene relative to the target are detected:
- by determining a plurality of image points of said real image of the scene corresponding to a plurality of points that are stationary at the beginning of movement of the real image;
 - by generating a fourth command signal when a determined number of said plurality of image points have become stationary again at the end of movement of the real image; and
 - by controlling said programmable processor member as a function of said fourth command signal.